

# MONTHLY WEATHER REVIEW,

## DECEMBER, 1876.

WAR DEPARTMENT,

Office of the Chief Signal Officer,

DIVISION OF

TELEGRAMS AND REPORTS FOR THE BENEFIT OF COMMERCE AND AGRICULTURE.

### INTRODUCTION.

In compiling the present Review, use has been made of all meteorological data received up to January 15th from the Voluntary Observers, Army Post and Signal Service Stations. The most prominent features in the meteorology of the month have been: 1st. The large number and very rapid movement of the areas of low pressure. 2nd. The low temperature which has averaged from  $2^{\circ}$  to  $8^{\circ}$  below the average for many years throughout the country east of the 100th meridian, as was anticipated in the Review for September: on the Pacific slope the month has been warmer than usual. 3rd. The absence of any area of very high pressure west of the Mississippi. 4th. The remarkable meteor of the 21st. 5th. The interesting solar halo of December 23rd. 6th. The absence of rain on the Pacific coast.

### BAROMETRIC PRESSURE.

*In General.*—The distribution of average pressures for the month is shown by the isobars on Map No. II. The highest average is there located in the Lower Mississippi valley, with a nearly equal pressure in eastern Dakota. The lowest pressure is, as usual, over the Gulf of St. Lawrence. The isobar of 30.00 passes from Lake Superior southeastward to New Jersey. The average pressures at stations received since the map was printed are Virginia City, 29.75; Fort Sully, 30.17; Pembina, 30.16; Bismarck, 30.06.

*Areas of High Barometer.*—No. I.—On the morning of the 1st of December the pressure was 30.85 in Dakota, diminishing thence eastward to the Atlantic. On the morning of the 2nd the pressure had very generally diminished west of the Mississippi but increased to the eastward. The area of highest barometer extended from Minnesota southeastward to Louisiana, with temperatures of  $-5^{\circ}$  and  $+25^{\circ}$  in these two states respectively. On the morning of the 3rd the highest pressure continued to extend from Manitoba to the Gulf States, but gradients had generally diminished. On the morning of the 4th the pressure was highest in the Lower Missouri valley, and on the morning of the 5th in Louisiana and Mississippi, while low barometer No. I was central over Manitoba. The area of highest pressure now moved eastward and was, on the morning of the 6th, central in Alabama, and on the morning of the 7th in Georgia and Florida.

No. II.—This area appears on the morning of the 8th central in Texas, where it had apparently been formed by the flow of air from the northwestern portion of the State, in connection with the low barometer No. II that was then developing in the Lake region, and the falling pressure in the South Atlantic States. During the rest of December 8th the very general flow of cold air from the Northwest caused an extension of the area of high pressure over the whole country west of the Mississippi. The very severe storms known in local parlance as "Blizzards" were reported on the 8th as prevailing in Iowa and Wisconsin, where temperatures of  $-15^{\circ}$  and  $-20^{\circ}$  prevailed, with violent NW. winds and much drifting snow. On the morning of December 9th the highest pressure was central over Missouri, Illinois and Tennessee, whence it moved rapidly to the southeastward, being central over North Carolina on the morning of the 10th.

No. III.—The low pressure that prevailed on the 11th over the Lake region was, as usual, attended by rising barometer, extending from the Gulf northward over the Gulf States, where it was quite well-marked on the morning of the 12th. The central highest pressure was, however, by the morning of the 13th, transferred eastward to the South Atlantic coast.